

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listing of claims in the application.

**Listing of Claims:**

1. (Previously Presented) A storage system for protecting data on a physical volume at the file system level and permitting access to the data at the physical volume level comprising:
  - a first interface for file level input/output (I/O);
  - a second interface for block level I/O;
  - a plurality of physical volumes upon which file systems are represented;
  - a first controller which processes file level I/O requests; and
  - a second controller which processes block level I/O requests,wherein, in response to a file system protect request directed to a particular file system with a specified period of time, the particular file system is protected for the specified period of time and a physical volume of the particular file system is also protected for the specified period of time, and
  - wherein once the particular file system is protected, write requests to the particular file system or physical volume of the particular file system via either the first or second controller are not permitted until expiration of the specified period of time,

wherein information regarding whether or not the particular file system is protected is stored in a volume status table having a plurality of entries which indicate statuses of the particular file system, and

wherein said entries include a first status indicating a retention period for the particular file system, the retention period indicating how long data in the particular file system should remain unchanged and thereby determining when data can next be written to the particular file system.

2-5. (Canceled).

6. (Previously Presented) A storage system according to claim 1, wherein said entries indicate a second status of each file system defining whether the file system is exported or un-exported.

7-8. (Canceled).

9. (Currently Amended) A storage system according to claim 1, wherein said first controller is a network attached storage controller which processes file level I/O requests, and

wherein in response to said file system protect request, said first controller sets the information corresponding to said specified period of time to said particular

file system and sets the information corresponding to said specified period of time to said physical volume of said particular file system.

10. (Previously Presented) A storage system according to claim 1, wherein said second controller is a disk controller which processes block level I/O requests.

11. (Currently Amended) A storage system according to claim 1, wherein said first interface is an Ethernet interface which processes file level I/O requests, and wherein in response to a file system delete request, said first controller checks a status of a specified file system and statuses of each corresponding physical volume of said file system, and if a shredding is required, said first controller deletes all the data on each corresponding physical volume by shredding.

12. (Original) A storage system according to claim 1, wherein said second interface is a Fibre Channel interface which processes block level I/O requests.

13. (Previously Presented) A storage system for protecting data on a physical volume at the file system level and permitting access to the data at the physical volume level comprising:

- a network attached storage (NAS) gateway; and
- a storage system which is connected to said NAS gateway,

wherein said NAS gateway comprises:

a first interface for file level I/O,

a third interface for block level I/O, and

a first controller which processes file level I/O requests,

wherein said storage system comprises:

a second interface for block level I/O, said second interface being  
connected to said third interface,

a plurality of physical volumes upon which file systems are  
represented, and

a second controller which processes block level I/O requests,

wherein, in response to a file system protect request directed to a particular  
file system with a specified period of time, the particular file system is protected for  
the specified period of time and a physical volume of the particular file system is also  
protected for the specified period of time,

wherein once the particular file system is protected, write requests to the  
particular file system or physical volume of the particular file system via either the  
first or second controller are not permitted until expiration of the specified period of  
time,

wherein information regarding whether or not the particular file system is  
protected is stored in a volume status table having a plurality of entries which  
indicate statuses of the particular file system, and

wherein said entries include a first status indicating a retention period for the particular file system, the retention period indicating how long data in the particular file system should remain unchanged and thereby determining when data can next be written to the particular file system.

14-16. (Canceled).

17. (Previously Presented) A storage system according to claim 13, wherein said entries indicate a second status of each file system defining whether the file system is protected or unprotected.

18. (Previously Presented) A storage system according to claim 13, wherein said entries indicate a second status of each file system defining whether the file system is exported or un-exported.

19-20. (Canceled).

21. (Currently Amended) A storage system according to claim 13, wherein said first controller is a network attached storage controller which processes file level I/O requests, and

wherein in response to said file system protect request, said first controller sets the information corresponding to said specified period of time to said volume status table for said particular file system and sets the information corresponding to said specified period of time to said volume status table for said physical volume of said particular file system.

22. (Currently Amended) A storage system according to claim 13, wherein said second controller is a disk controller which processes block level I/O requests, and wherein in response to a file system delete request, said first controller checks a status of a specified file system and statuses of each corresponding physical volume of said file system, and if a shredding is required said first controller deletes all the data on each corresponding physical volume by shredding, and if a shredding is not required said first controller places each corresponding physical volume to a free volume pool.

23. (Original) A storage system according to claim 13, wherein said first interface is an Ethernet interface which processes file level I/O requests.

24. (Original) A storage system according to claim 13, wherein said second interface is a Fibre Channel interface which processes block level I/O requests.

25. (Previously Presented) A storage system for protecting data on a physical volume at the file system level and permitting access to the data at the physical volume level comprising:

a first interface for file level input/output (I/O);

a second interface for block level I/O;

a plurality of physical volumes upon which file systems are represented;

a first controller which processes file level I/O requests; and

a second controller which processes block level I/O requests,

wherein, in response to a file system protect request directed to a particular file system with a specified period of time, the particular file system is protected for the specified period of time and a physical volume of the particular file system is also protected for the specified period of time,

wherein once the particular file system is protected, write requests to the particular file system or physical volume of the particular file system via either the first or second controller are not permitted until expiration of the specified period of time

wherein information regarding whether or not the particular file system is protected is stored in a volume status table having a plurality of entries which indicate statuses of the particular file system, and

wherein said entries include a first status indicating a retention period of the particular file system, the retention period indicating how long data in the particular

file system should remain unchanged and thereby determining when data can next be written to the particular file system.

26-27. (Canceled).

28. (Previously Presented) A storage system according to claim 25, wherein said entries indicate a second status of each file system defining whether the file system is exported or un-exported.

29. (Currently Amended) A storage system according to claim 25, wherein said first controller is a network attached storage controller which processes file level I/O requests, and

wherein in response to said file system protect request, said first controller sets the information corresponding to said specified period of time to said particular file system and sets the information corresponding to said specified period of time to said physical volume of said particular file system.

30. (Currently Amended) A storage system according to claim 25, wherein said second controller is a disk controller which processes block level I/O requests, and  
wherein in response to a file system delete request, said first controller checks a status of a specified file system and statuses of each corresponding physical



volume of said file system, and if a shredding is required said first controller deletes all the data on each corresponding physical volume by shredding, and if a shredding is not required said first controller places each corresponding physical volume to a free volume pool.

31. (Original) A storage system according to claim 25, wherein said first interface is an Ethernet interface which processes file level I/O requests.

32. (Original) A storage system according to claim 25, wherein said second interface is a Fibre Channel interface which processes block level I/O requests.

33. (Previously Presented) A storage system for handling input/output (I/O) requests from a plurality of servers, wherein a first server of the servers sends file I/O requests and a second server of the servers sends block I/O requests, comprising:

a storage media including a plurality of volumes storing data of file systems;

a first controller, to be coupled to the first server, conducting I/O operations in response to the file I/O requests; and

a second controller, coupled to the storage media, to be coupled to the second server, conducting I/O operations in response to the block I/O requests;

wherein at least one file system of the file systems is set to be write-protected from the second controller when the first controller receives a request from the first

server to protect said at least one file system in the storage media for a specified period of time,

wherein information regarding whether or not said at least one file system is protected is stored in a volume status table having a plurality of entries which indicate statuses of said at least one file system, and

wherein said entries include a first status indicating a retention period of said at least one file system, the retention period indicating how long data in said at least one file system should remain unchanged and thereby determining when data can next be written to said at least one file system.

34. (Previously Presented) The storage system according to claim 33, wherein the first and second controllers share protection information including a status of protection and a retention period for each of the file systems which is set by the first controller.

35. (Previously Presented) The storage system according to claim 33, wherein the first controller receives the file I/O requests via a first interface and the second controller receives the block I/O request via a second interface.